UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,927	02/27/2004	Werner Penkert	NHL-KEH-26A	6812

27877 7590 06/03/2005

KENNAMETAL INC.
P.O. BOX 231
1600 TECHNOLOGY WAY
LATROBE, PA 15650

EXAMINER	
ADDISU, SARA	
ART UNIT	**PAPER NUMBER**
3722	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/789,927	PENKERT, WERNER	
	Examiner	Art Unit	
	Sara Addisu	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 17-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-13,17 and 19-22* is/are rejected.

7)☒ Claim(s) *14 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/28/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because the length of the abstract exceeds the limit of 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 18 recites the broad recitation "< 10 degrees" the claim also recites "7 +/- 2 degrees" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 12, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lagerberg (U.S. Patent No. 4,632,606) in view of Alexander,IV (US Patent No. 6,379,087).

Lagerberg teaches an indexable insert (13) having an insert body (23) with a working hard material circular wafer (24: Figure 3) preferably consisting of ceramics (Figures 1, 3 & 6, and Col. 2, lines 27-31) with recess for receiving the working hard material circular wafer (24).

However, Lagerberg is silent about the material used for the base body of the insert (i.e. doesn't teach cemented carbide body).

Alexander,IV teaches the use of cemented carbide for the body of cutting inserts (Co.. 1, lines 45-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lagerberg's invention such that the base body of the insert is made of ceramic as taught by Alexander,IV since it is common practice

for cutting inserts for metalworking operations to be made of cemented carbide because of it's wear-resistant property (Col. 1, lines 45-49).

Claims 2-4, 7-9, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lagerberg (U.S. Patent No. 4,632,606) in view of Alexander,IV (US Patent No. 6,379,087) and further in view of Parker (U.S. Patent No. 4,552,491).

Lagerberg and Alexander,IV teach a cutting insert as set forth in the above rejection. Lagerberg also teaches a circular wafer (tip) having a top and a front wall that intersect to form partial circle cutting edge and a recess having a bottom surface and a side surface disposed substantially transverse to the bottom surface (see figures 3 & 6 and Col. 2, lines 36-37). Furthermore, Lagerberg teaches wafers (tip) being attached to the body through welding or soldering (Note: brazing and soldering are metallurgically identical processes that involve joining components without melting the base materials. Both processes use a filler metal which is interposed between the two base materials).

However, Lagerberg fails to teach the cutting body having a perpendicular circular truncated cone shape with one end surface being smaller in diameter than opposite end surface.

Parker teaches an insert having a (perpendicular) truncated cone-shape with the larger part of the diameter on the top planar end (14) and the side wall intersecting with the top surface to form circumferential cutting edge (Figures 1 & 2). Furthermore, Parker teaches cylindrical wall (18) of the insert tapering to provide relief (clearance) angle (B) that is in the range of 4-10 degrees but preferably at 7 degrees (Col. 3, lines 7-8 & 17-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lagerberg's invention such that the circular shaped wafers (tips) are replaced by a perpendicular circular truncated cone shape with one end surface being smaller in diameter than opposite end surface as taught by Parker since Lagerberg teaches that the shape of the wafer (tip) may vary depending on which machining is wanted (Col. 2, lines 33-35).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lagerberg (U.S. Patent No. 4,632,606) in view of Alexander,IV (US Patent No. 6,379,087) and further in view of Parker (U.S. Patent No. 4,552,491) and (European Publication No. 0552714).

Lagerberg teaches a cutting insert having a circular wafer (tip) where the exposed cutting edge has a partial circle shape ('606, figure 3) as set forth in the above rejection.

However, Lagerberg is silent as to the partial circle of the cutting edge being of any specific angle (i.e. partial circle of 200 degrees but not more than 230 degrees as claimed in claims 5 & 6 of instant application).

European Publication No. 0552714 teaches a cutting insert having a partial circle cutting edge that is in the range of 200-280 degrees (Col. 5, lines 45-48 & Col. 2, lines 34-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lagerberg's invention such that the partial circle edge extends over a range of 200-280 degrees as taught by European Publication

No. 0552714, for the purpose of having control of the flow of the chips at all times (European Publication No. 0552714, Col. 2, lines 40-47).

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lagerberg (U.S. Patent No. 4,632,606) in view of Alexander,IV (US Patent No. 6,379,087) and further in view of Parker (U.S. Patent No. 4,552,491), (European Publication No. 0552714) and Morsch (U.S. Pub. No. 2002/0131832).

Lagerberg teaches a cutting insert as set forth in the above rejection.

However, Lagerberg fails to teach one groove, defined by raised portions on either side, extending transversely to the longitudinal axis of the insert.

Morsch teaches a cutting insert (510: figure 23) having a cemented carbide body (Page 2, paragraph 38, lines 1-2) with recess (575) for receiving U-shaped tip (cutting body) (585). Morsch also teaches teaches the tip having a top and front wall that intersect to form partial circle cutting edge (Page 1, paragraph 12, lines 3-4). Furthermore, Morsch teaches clamping surface (598) having one groove, defined by raised portions on either side, extending transversely to the longitudinal axis of the insert (see figure 23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lagerberg's invention such that the insert is secured by a clamp as taught by Morsch, since it is well known in the art to secure an insert using any number of different configurations, whether it be a hold down screw or a clamp (2002/0131832, Page 4, paragraph 75).

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lagerberg (U.S. Patent No. 4,632,606) in view of Alexander,IV (US Patent No. 6,379,087) and further in view of Wiman et al. (U.S. Patent No. 6,217,263).

Lagerberg and Alexander,IV teach an insert as set forth in the above rejection.

However, Langerberg fails to teach the use of the insert for copy-turning a workpiece.

Wiman et al. teaches an indexable metal (therefore capable of being used on workpiece made of aluminum) insert, adapted for copy-turning (Abstract, lines1-2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize Lagerberg's insert for copy-turning a workpiece taught by Wiman et al., since it is well known in the art to use indexible inserts for application within a broad range such as copy-turning ('263, Col. 1, lines 15-18).

Allowable Subject Matter

Claims 14 and 18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

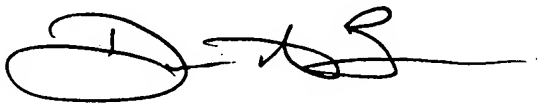
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sara Addisu
(571)272-6082



DERRIS H. BANKS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700